

This listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

Claim 1. (Currently amended) A purified polypeptide anthrax toxin B moiety, wherein said B moiety comprises comprising an amino acid sequence that is 95% identical to SEQ ID NO:821, and includes a D425K mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced to a subject.

Claims 2-5. (Cancelled)

Claim 6. (Currently amended) An immunogenic composition comprising a purified polypeptide anthrax toxin B moiety in a pharmaceutically acceptable carrier, wherein said polypeptide B-moiety comprises an amino acid sequence that is 95% identical to SEQ ID NO:8 21, and includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced to a subject.

Claims 7-64. (Cancelled)

65. (New) The polypeptide of claim 1, wherein said polypeptide lacks pore-forming ability.

66. (New) The polypeptide of Claim 65, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

67. (New) The polypeptide of Claim 66, wherein said mutation at amino acid residue 425 is D425K.

68. (New) The polypeptide of Claim 66, wherein said polypeptide further includes a mutation at amino acid residue 397.

69. (New) The polypeptide of Claim 68, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

70. (New) The polypeptide of Claim 69, wherein said mutation at amino acid residue 397 is K397D.

71. (New) The polypeptide of Claim 69, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

72. (New) The polypeptide of Claim 71, wherein said polypeptide includes a K395D mutation and a D426K mutation.

73. (New) The polypeptide of Claim 70, wherein said polypeptide includes an F427A mutation.

74. (New) The polypeptide of Claim 73, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.

75. (New) The composition of Claim 6, wherein said polypeptide lacks pore-forming ability.

76. (New) The composition of Claim 75, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

77. (New) The composition of Claim 76, wherein said mutation at amino acid residue 425 is D425K.

78. (New) The composition of Claim 77, wherein said polypeptide further includes a mutation at amino acid residue 397.

79. (New) The composition of Claim 78, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

80. (New) The composition of Claim 79, wherein said mutation at amino acid residue 397 is K397D.

81. (New) The composition of Claim 80, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

82. (New) The composition of Claim 81, wherein said polypeptide includes a K395D mutation and a D426K mutation.

83. (New) The composition of Claim 79, wherein said polypeptide includes an F427A mutation.

84. (New) The composition of Claim 83, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.

85. (New) A purified fusion polypeptide comprising an amino acid sequence that is 95% identical to SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said fusion polypeptide lacks pore-forming ability or provokes an immune response when introduced to a subject.

86. (New) The fusion polypeptide of Claim 85, wherein said polypeptide lacks pore-forming ability.

87. (New) The fusion polypeptide of Claim 86, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

88. (New) The fusion polypeptide of Claim 87, wherein said mutation at amino acid residue 425 is D425K.

89. (New) The fusion polypeptide of Claim 87, wherein said polypeptide further includes a mutation at amino acid residue 397.

90. (New) The fusion polypeptide of Claim 89, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

91. (New) The fusion polypeptide of Claim 90, wherein said mutation at amino acid residue 397 is K397D.

92. (New) The fusion polypeptide of Claim 91, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

93. (New) The fusion polypeptide of Claim 92, wherein said polypeptide includes a K395D mutation and a D426K mutation.

94. (New) The fusion polypeptide of Claim 91, wherein said polypeptide includes an F427A mutation.

95. (New) The fusion polypeptide of Claim 94, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.

96. (New) An immunogenic composition comprising a purified fusion

polypeptide in a pharmaceutically acceptable carrier, wherein said fusion polypeptide comprises an amino acid sequence that is 95% identical to SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or provokes an immune response when introduced to a subject.

97. (New) The composition of Claim 96, wherein said polypeptide lacks pore-forming ability.

98. (New) The composition of Claim 97, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

99. (New) The composition of Claim 98, wherein said mutation at amino acid residue 425 is D425K.

100. (New) The composition of Claim 98, wherein said fusion polypeptide further includes a mutation at amino acid residue 397.

101. (New) The composition of Claim 100, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

102. (New) The composition of Claim 101, wherein said mutation at amino acid residue 397 is K397D.

103. (New) The composition of Claim 102, wherein said fusion polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

104. (New) The composition of Claim 103, wherein said fusion polypeptide includes a K395D mutation and a D426K mutation.

105. (New) The composition of Claim 102, wherein said fusion polypeptide includes an F427A mutation.

106. (New) The composition of Claim 105, wherein said fusion polypeptide includes a deletion of amino acid residues 302 through 325.

107. (New) A method of inducing an immune response in a mammal by administering to said mammal an immunogenic composition comprising a purified polypeptide in a pharmaceutically acceptable carrier, wherein said polypeptide comprises an amino acid sequence that is 95% identical to SEQ ID NO:21, and includes a mutation at amino acid residue 425, wherein said polypeptide lacks pore-forming ability or

provokes an immune response when introduced to a subject.

108. (New) The method of Claim 107, wherein said polypeptide lacks pore-forming ability.

109. (New) The method of Claim 108, wherein said mutation at amino acid residue 425 is selected from the group consisting of D425A, D425N, D425E, and D425K.

110. (New) The method of Claim 109, wherein said mutation at amino acid residue 425 is D425K.

111. (New) The method of Claim 109, wherein said polypeptide further includes a mutation at amino acid residue 397.

112. (New) The method of Claim 111, wherein said mutation at amino acid residue 397 is selected from the group consisting of K397A, K397D, K397C, and K397Q.

113. (New) The method of Claim 112, wherein said mutation at amino acid residue 397 is K397D.

114. (New) The method of Claim 113, wherein said polypeptide further includes a mutation of at least one of amino acid residues 395 and 426.

115. (New) The method of Claim 114, wherein said polypeptide includes a K395D mutation and a D426K mutation.

116. (New) The method of Claim 113, wherein said polypeptide includes an F427A mutation.

117. (New) The method of Claim 116, wherein said polypeptide includes a deletion of amino acid residues 302 through 325.